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Dated: February 21, 2006 Signature:

(David J. Powers)

Docket No.: 102323-0131  
(PATENT)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Scott A. Thieret et al.

Application No.: 10/756,172

Confirmation No.: 2103

Filed: January 12, 2004

Art Unit: 2625

For: IMPROVED METHODS AND APPARATUS  
FOR BACK-PROJECTION AND  
FORWARD-PROJECTION

Examiner: M. Seth

### INFORMATION DISCLOSURE STATEMENT (IDS)

MS Amendment  
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Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the publications listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the publications be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed after the mailing date of a Final Office Action or Notice of Allowance, whichever occurred first, but on or before payment of the Issue Fee (37 CFR 1.97(d)). Applicant(s) hereby petition(s) that the Information Disclosure Statement be considered.

Applicant has not submitted copies of each cited U.S. patent and U.S. patent application as required by 37 CFR 1.98(a)(2)(i), amended October 2004, as the U.S. Patent and Trademark Office has waived this requirement for all U.S. patent applications. Applicant submits herewith copies of foreign and non-patents in accordance with 37 CFR 1.98(a)(2).

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In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in the statement is, or is considered to be, material to patentability as defined in § 1.56 (b).

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed publications.

Please charge our Deposit Account No. 141449 in the amount of \$180.00 covering the fee set forth in 37 CFR 1.17(p). The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 141449, under Order No. 102323-0131.

Dated: February 21, 2006

Respectfully submitted,

By \_\_\_\_\_

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PTO/SB/08a/b (07-05)

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>				Application Number	10/756,172-Conf. #2103
				Filing Date	January 12, 2004
				First Named Inventor	Scott A. Thieret
				Art Unit	2625
				Examiner Name	M. Seth
Sheet	1	of	3	Attorney Docket Number	102323-0131

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
AA*	US-6,377,266	04-23-2002	Baldwin		
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AC*	US-6,771,733-A1	08-03-2004	Katsevich		
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AZ*	US-6,747,654	06-08-2004	Laksono et al.		

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
BA	-WO 04/072906 A1		08-26-2004	Ntziachristos, et al.		
BB	-WO 04/066215 A1		08-05-2004	Grass, et al.		
BC	-WO 01/63561 A1		08-30-2001	Kaufman, et al.		
BD	-WO 04/034087 A2		04-22-2004	Bednar, et al.		
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BF	-EP 00953943 A1		07-14-2004	Heumann		
BG	-WO 92/05507 A1		04-02-1992	Hsiao, et al.		

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<p>Substitute for form 1449A/B/PTO</p> <p><b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b></p> <p>(Use as many sheets as necessary)</p>				<b>Complete If Known</b>	
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				Art Unit	2625
Examiner Name	M. Seth				
Sheet	2	of	3	Attorney Docket Number	102323-0131

<b>NON PATENT LITERATURE DOCUMENTS</b>					
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			
	CA	Kajiyama, J. T., "Ray Tracing Volume Densities," Proc. SIGGRAPH, July 1984, Computer Graphics, Vol. 18, No. 3, pp. 165-174.			
	CB	Roettger, Stefan, et al., "Smart Hardware-Accelerated Volume Rendering," Joint EUROGRAPHICS - IEEE TCVG Symposium on Visualization, 2003, pp.231-238, 301.			
	CC	"Filtered Backprojection Reconstruction", <a href="http://www.physics.ubd.ca/~mrig/home/tutorial/fbp_recon.html">http://www.physics.ubd.ca/~mrig/home/tutorial/fbp_recon.html</a> , 2/6/2003, 5 pages			
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	CF	DEMPSTER et al., "Maximum Likelihood From Incomplete Data Via The EM Algorithm", Harvard University and Educational Testing Service, December 8, 1976, pp. 1-38.			
	CG	Printouts from Microsoft.com, from <a href="http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dx8_c/directx_cpp/Graphics/ProgrammersGuide/GettingStarted/Architecture">http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dx8_c/directx_cpp/Graphics/ProgrammersGuide/GettingStarted/Architecture</a> , 12/20/2002, 22 pages.			
	CH	HUDSON et al., "Accelerated Image Reconstruction Using Ordered Subsets of Projection Data", IEEE Transactions on Medical Imaging, vol. 13, No. 4, December 1994, pp. 601-609.			
	CI	Chidlow, et al, "Rapid Emission Tomography Reconstruction," Proceedings of the 2003 Eurographics/IEEE TCVG Workshop on Volume Graphics, Tokyo, Japan, July 7-8, 2003, 13 pages.			
	CJ	Purcell, T., et. al., "Ray tracings on Programmable Graphics Hardware," Computer Graphics (Proceedings of SIGGRAPH), 1998, pp. 703-712.			
	CK	J. Kruger, and R. Westermann, "Acceleration Techniques for GPU-based Volume Rendering," Proceedings of IEEE Visualization, 2003, 6 pages.			
	CL	CABRAL et al., "Accelerated Volume Rendering and Tomographic Reconstruction Using Texture Mapping Hardware", Silicon Graphics Computer Systems, 1995 IEEE, pp. 91-97.			
	CM	K. Mueller, and R. Yagel, "Rapid 3-D Cone Beam Reconstruction with the Simultaneous Algebraic Reconstruction Technique (SART) Using 2-D Texture Mapping Hardware", IEEE Transactions on Medical Imaging, 12/2000, 19(12): pp.1227-1237.			
	CN	"Technical Brief: NVIDIA infiniteFX Engine: Programmable Pixel Shaders," NVIDIA Corporation, 5 pages.			
	CO	B. T. Phong, "Illumination for Computer Generated Pictures," Communications of the ACM, 18(6), 6/1975, pp311-317.			
	CP	JONES et al., "Positron Emission Tomographic Images And Expectation Maximization: A VLSI Architecture For Multiple Iterations Per Second", Computer Technology and Imaging, Inc., 1988 IEEE, pp. 620-624.			
	CQ	H. Pfister, et. al., "The VolumePro real-time ray-casting System," Computer Graphics (Proceedings of SIGGRAPH), 8/1999, pp 251-260.			
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				Examiner Name	M. Seth
Sheet	3	of	3	Attorney Docket Number	102323-0131

CT	N. Max, "Optical Models for Direct Volume Rendering," IEEE Transactions On Visualization and Computer Graphics, 6/1995, I(2); pp.99-108.
CU	Viola, "Alignment by Maximization of Mutual Information," PhD Thesis MIT (Also Refered To As - "AI Technical report No. 1548"), MIT Artificial Intelligence Lab, June 1, 1995, pp. 1-29.
CV	Hopf, M., Ertl, T., "Accelerating 3D Convolution using Graphics Hardware," Proc. IEEE Visualization, 1999, 5 pages.
CW	Cohen, Michael, et al., "A Progressive Refinement Approach to Fast Radiosity Image Generation," Computer Graphics, Volume 22, Number 4, August 1988, pp.75-84.
CX	"Technical Brief: NVIDIA nfiniteFX Engine: Programmable Vertex Shaders," NVIDIA Corporation, 12 pages.

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